"the allocation of common cost to video would have to be increased beyond the percentages shown if telephone ratepayers are to share in the benefits of the integrated network, in line with the Commission's intent."[53]

Dr. Johnson properly recognizes that the exact level of sharing is a policy decision for the Commission.[54] To assist the Commission in making this policy determination, NCTA recommends allocating 75 percent of common costs to video not only to avoid cross-subsidization, but also to ensure that local ratepayers share in an adequate level of benefits derived from scope economies.

V. THE COSTS OF SPARE FACILITIES SHOULD BE ALLOCATED ON THE BASIS OF COST CAUSATION.

The Commission is correct in noting that "Congress did not intend that telephone exchange service or exchange access subscribers pay rates designed to recover the costs of spare capacity that eventually will be used for video transmission and other services that may be competitive."[55] To conclude otherwise would permit the extension of local telephone monopolies into the provision of video services at the expense of captive telephone ratepayers.

The provision of video service requires much greater bandwidth capacity than does the provision of telephone service. Much, if not all, of the spare capacity on integrated networks will be used for the provision of video, not telephone, services. Therefore, telephone ratepayers

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53 Id.

54 Id. ("The magnitude of the overall benefits and the proportion in which they should be split between the two services raise issues going beyond the scope of my analysis.").

55 Cost Allocation Notice, at 21, ¶ 53.

should not bear the cost of excess capacity. Further, the commitment to universal telephone service is threatened by the increased rates resulting from the imposition of spare capacity costs on telephone ratepayers.

Instead, the costs of spare facilities are properly allocated on the basis of cost causation. To the extent that spare facilities are designed for future telephone use, telephone ratepayers will experience benefits from their construction and spare facility costs would be properly allocated to regulated telephone rates. However, the Commission should vigorously scrutinize claims that spare facilities will be used for telephony. To the extent that a telephone company cannot conclusively show that spare facilities will be used for the provision of telephony, it should be assumed that the facilities will be used for non-telephone purposes and their costs should be allocated accordingly.

VI. TELEPHONE RATES SHOULD BE REDUCED TO REFLECT THE PAYMENT TO TELEPHONE COMPANIES OF THE IMPUTED COST OF POLE ATTACHMENTS, CONDUITS AND RELATED ITEMS.

Section 224(g) of the Communications Act, as amended by section 703 of the 1996 Act, requires a utility providing telecommunications or cable services to "impute to its costs of providing services . . . an equal amount to the pole attachment rate for which such company would be liable under this section." The provision of nonregulated services, such as video, over integrated networks will require access to pole attachments, conduits and related items. The 1996 Act requires incumbent LECs offering video services to impute the rates for pole attachments and conduit facilities to its cost of providing video service. The revenues for the telephone operations of the incumbent LEC generated by the imputation of costs for pole attachments to provide video services should result in a corresponding reduction in local telephone rates. There has been a

recent expression of concern about the possibility of higher local telephone rates after the 1996 Act.[56] A reduction in rates, as proposed herein by NCTA, would help to assuage those fears.

VII. PRICE CAP INDICES SHOULD BE REDUCED TO REFLECT THE USE OF REGULATED FACILITIES FOR REGULATED AND NONREGULATED PURPOSES.

A. The Joint Provision of Video and Telephony on an Integrated Network Should Provide Economies of Scope.

NCTA agrees with the Commission that the construction of integrated broadband networks to offer both video and telephone service should produce scope economies.[57] If scope economies were not anticipated, telephone companies would have no financial incentive to construct integrated networks rather than constructing separate video networks. The existence of scope economies -- by definition -- lowers costs in jointly providing telephone and video service and increases the respective profits of providing service.

B. The Commission Should Decide as a Matter of Public Policy to Allow Telephone Ratepayers to Share in the Scope Economies.

Telephone companies will realize gains from the scope economies provided by an integrated network. It does not follow, however, that the telephone companies should retain all of the gains produced by the scope economies, particularly in light of the substantial contribution that telephone ratepayers are providing to make these economies possible. The manner in which the gains are to be distributed is an important public policy question.

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56 See, e.g., Mike Mills, Phone Firms Seek Higher Local Rates, WASH. POST, May 7, 1996, at A1.

57 Cost Allocation Notice, at 15, ¶ 35 ("We do know, however, that if the provision of a hybrid system is an economically efficient business decision, it will include economies of scope.").

The benefits of a decades-long monopoly have enabled local telephone companies to construct the sophisticated ubiquitous telephone networks upon which they plan to offer video services. The telephone companies consistently neglect the value of the existing plant when addressing network integration for video. Local telephone ratepayers have underwritten the research and development enabling the creation of a valuable backbone network which will be used in the future to provide not only telephone services but also video services. The Commission should decide, as a matter of public policy, that the local telephone ratepayer should share in the efficiencies provided by an integrated broadband network. That should take the form of limiting the cost allocation to regulated service, with concomitant effects on regulated rates.

Such a step also will further protect against telephone rate increases from cross-subsidization. As discussed above, telephone ratepayers are vulnerable to cross-subsidization of integrated networks; as Dr. Johnson notes,"[i]ndeed, it is easy to postulate circumstances under which even a 100 percent allocation to video would be insufficient to prevent cross-subsidization."[58] The Commission's overriding concern about protecting telephone ratepayers against rising telephone rates should counsel in favor of requiring some of the benefits stemming from integrated facilities to be reflected in reduced telephone rates. NCTA urges the Commission to adopt this policy and reduce price cap indices to reflect the use of regulated facilities for the joint provision of regulated and nonregulated services

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58 Johnson, Allocating Common Costs, at 6.

VIII. CONCLUSION

NCTA strongly supports the Commission's efforts to revise its cost allocation rules to adapt to a telecommunications environment in which both regulated and non-regulated services are offered over an integrated network. NCTA urges the Commission to expeditiously provide clear, well defined cost allocation rules consistent with the recommendations contained herein.

Respectfully submitted,

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ITS ATTORNEYS

May 31, 1996

Comments

of the

National Cable Television Association, Inc.

Attachment 1

ALLOCATING COMMON COSTS TO AVOID CROSS-SUBSIDY AND ENABLE THE SHARING OF BENEFITS

Leland L. Johnson[1]

Introduction and Summary

The task of modifying the cost allocations process prescribed in the Commission's Part 64 rules is driven by the need to avoid cross-subsidy, where costs of unregulated video services would be shifted onto the shoulders of monopoly telephone ratepayers. As the Commission says in its Notice of Proposed Rulemaking, [w]e seek to establish a system of cost allocation principles that inhibits carriers from imposing on ratepayers the costs and risks of competitive, nonregulated ventures, including nonregulated video service ventures."[2] The Commission continues, "[a]n over-allocation of common costs to regulated activities would cause regulated ratepayers to bear more costs than they would had the shared use facilities not been built.[3]

Moreover, the Commission holds that more than only protection against cross-subsidy is warranted. It goes on to say that "we believe that telephone ratepayers are entitled to at least

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[1]My resume, describing my professional experience and other qualifications, is attached to my Declaration, November 30, 1995, appended to National Cable Television Association Opposition to Direct Case. Amendment to the Bell Atlantic Telephone Companies Tariff FCC No. 10; November 30, 1995.

[2]Allocation of Costs Associated with Local Exchange Carrier Provision of Video Programming Services, CC Docket No. 96-112 (released May 10, 1996) ("Notice") para. 24.

[3]Id. para. 20. "Conversely, an over-allocation of common costs to nonregulated activities could dissuade companies from entering nonregulated competitive markets, thus depriving regulated ratepayers of any benefit from the economies of scale using facilities to provide both services might have created." Id.

some of the benefit of the economy of scope between telephony and competitive services."[4] Consequently, it concludes that "our rules will intentionally allocate a significant part of common costs to nonregulated services."[5]

Within what framework, then, are common costs to be allocated? The Commission says that, "[f]or the nonregulated offerings contemplated in this proceeding, loop plant presents the greatest problem," because the usage-based allocations process embodied in the Part 64 rules, "does not result in cost-causative allocations."[6]

In response, the Commission has tentatively decided to adopt a "fixed factor" approach for allocating local loop common costs between regulated and nonregulated activities.[7] Of key importance is what specific allocation factor -- "such as 50 percent"[8] which the Commission specifically notes -- should be adopted in light of the Commission's objectives to avoid cross-subsidy and to permit an appropriate sharing of benefits.

Using for illustrative purposes the costs of integrated networks previously filed by Bell Atlantic and Pacific Bell in connection with their video dialtone applications, and taking into account the stand-alone costs for telephony, I conclude that an allocation of more than 50 percent of common costs to video would be warranted. As technological advance proceeds and consumer demands change, modification in that allocation may, of course, be needed. Especially important in determining appropriate changes in the allocation factor over time, the Commission must

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[4]Id para. 23.

[5]Id.

[6]Id. para. 19.

[7]Id. para. 40.

[8]Id. para. 39.

monitor the relationship between the costs of stand-alone telephone and video networks and the costs of integrated systems.

Case 1: Using Bell Atlantic Data for Illustrative Purposes

Let us start with Case 1 of Table 1 (page 9) with the figure of $1,785 per potential subscriber as the estimated investment required for the local loop portion of an integrated network. This figure is taken from Bell Atlantic's tariff filing for its Dover, New Jersey video dialtone system.[9] This filing is especially useful because it contains detailed cost breakdowns between dedicated facilities (subject to direct assignment) and shared facilities within the integrated network. According to the filing, Bell Atlantic's dedicated telephony and video plant would amount to $346 and $260, respectively (rows 2-3); hence, according to the Commission's methodology these amounts would be assigned directly to the two services.

A portion of the remaining cost of $1,179 (row 4) would be assigned based on an "indirect, but cost-causative linkage to another cost pool or group of cost pools for which a direct assignment or attribution is available."[10] I cannot determine from Bell Atlantic's data the level of indirect assignment. Consequently, let us assume that 50 percent of the $1,179 figure would be subject to indirect assignment and that the amount ($589) would be split between telephony and video in proportion to their direct assignments shown in rows 2 and 3. The resulting indirect assignments of $336 and $253 are shown in rows 5 and 6.

The key question is how the remaining unattributable common cost of $590 (row 7) is to be allocated, both to prevent cross-subsidy and to ensure -- in line with the Commission's goal --

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[9]Bell Atlantic Tariff F.C.C. No. 10, Transmittal No. 741, January 27, 1995.

[10]Notice, para. 13.

that telephone ratepayers share in the benefits accruing from the economies of scope in combining the two services on integrated networks. After considering alternative criteria for the allocation, the Commission tentatively concludes that "we should prescribe a fixed factor for allocating loop plant common costs between regulated and nonregulated activities."[11] The Commission goes on to seek comment "on specific allocation factors, such as 50 percent that would split the costs of local loop plant equally between regulated and nonregulated activities or some other factor."[12]

In response, Case 1 shows the consequences of adopting a 50 percent split. With $295 allocated to each service (rows 8-9), a total of $808 is assigned to video (row 10). At first blush, one might conclude that this total of $808 is sufficient to prevent cross-subsidy since it covers both a direct and indirect cost assignment to video, as well as an apparently "reasonable" allocation of common cost.

This view is mistaken, however, because it does not take into account the actual incremental cost -- the cost actually incurred by the inclusion of video. The direct and indirect assignments illustrated above do not add up to the incremental costs relevant to determining whether cross-subsidy exists. Recall that cross-subsidy exists if telephone users are worse off (i.e., financially burdened) if video service is added. They would be so burdened, however, only if the overall cost assigned to video falls short of the additional or incremental cost caused by video (or, alternatively, if the cost assigned to telephony exceeds the stand-alone cost of the telephone network). Telephone ratepayers would not be burdened -- indeed they would share the benefits of scope economies -- if the cost assigned to video exceeds video incremental cost.[13]

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[11]Id para. 40.

[12]Id para. 39.

[13]This treatment is consistent with the Commission's definition of incremental cost. "The incremental cost of a service in a multi-service network is the difference between the cost of the

Accordingly, the critical challenge is to estimate the cost of telephone service in the absence of video. Thus, what would telephone ratepayers be obliged to pay for service (of equivalent quality to that on the integrated network) in the absence of video? In response, a digital loop carrier network can reasonably be regarded as the best alternative for telephony on a stand-alone basis. With digitized signals carried on fiber (or coaxial cable) to neighborhood nodes, the digital loop carrier is a less costly approach than use of conventional copper in many local applications.[14] While the cost of a digital loop carrier obviously varies with population density and other factors, a figure of $700 per potential subscriber is a reasonable estimate for illustrated purposes, based on past studies.[15]

The introduction of the digital loop carrier as the basis for stand-alone cost, shown in Column 2 of Table 1, indicates that the incremental cost for video is $1,085 (row 12) -- the difference between the cost of the integrated network with video and the stand-alone cost of telephony. With the digital loop carrier as the baseline for measuring the incremental cost of video, a cross-subsidy burden is imposed on telephony of $277 (row 13, column 1) -- the amount by which the total assigned to video falls short of video's incremental cost.

How much of the $590 (row 7) common cost must, therefore, be assigned to ensure that telephony bears no subsidy? In this example, nearly all of the common cost -- $572 or 97 percent (row 15) -- must be assigned to video to render the system subsidy free.

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facilities required for a complete system and the cost of the facilities in a system that does not provide that service." (Para. 16).

[14]For an expanded description, see David P. Reed, *Residential Fiber Optic Networks, An Economic Analysis* (Artech House, 1992) at 39.

[15]The $700 estimate is derived from evidence in other studies treated in Johnson, Declaration, November 30. 1995, supra at 6-7

Of course, the percentage breakdown for subsidy-free allocations depends on the underlying numbers and assumptions. The required percentage allocations to video would fall, for example, if integrated network investment were to fall below the $1,785 shown, while a decrease in telephony stand-alone cost would necessitate an increase in the required percentage. Indeed, it is easy to postulate circumstances under which even a 100 percent allocation to video would be insufficient to prevent cross-subsidization.[16]

Case 2: Using Pacific Bell Data for Illustrative Purposes

With outcomes being so sensitive to underlying conditions, it is instructive to consider another case -- Case 2 in Table 1 -- that demonstrates the effect of two variations from Case 1. First, drawing from data supplied by Pacific Bell in its earlier Section 214 Applications for video dialtone service in California,[17] it encompasses a much smaller integrated plant investment ($850) than the $1,785 figure in Case 1.

Second, it responds to the Commission's concern that most or all of local loop plant may consist of common costs. Accordingly, the Commission invites comment "on which loop costs, if any, incurred in the provision of open video systems and other competitive services can be

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[16]To illustrate, suppose that 75 percent instead of 50 percent of the remaining cost (row 4) were amenable to indirect assignment. The resulting video indirect assignment would be $380 (instead of $253 in row 6) and the remaining unattributable common cost would be $295 (instead of $590 in row 6). Hence, even a 100 percent allocation of the $295 to video would be insufficient to prevent cross-subsidy, since the total assignment to video of $935 ($260+$380+$295) would fall short of video's incremental cost of $1,085 (row 12).

[17]My analysis of Pacific Bell's data, with cites to its filing, is contained in my Reply Affidavit, March 10, 1994, appended to Reply of the California Cable Television Association to Pacific Bell's Opposition to Petitions to Deny, W-P-C 6913, 6914, 6915, 6916 (March 11, 1994). Other companies have supplied data for commercial integrated networks as well -- e.g. U.S. West, NYNEX and SNET. The data from Bell Atlantic and Pacific Bell are selected here because they provide the likely upper bound and lower bound estimates for integrated network investments in fiber-based systems with foreseeable technologies.

assigned to nonregulated activities."[18] Case 2 illustrates the situation where only a small portion of the integrated network is directly assignable to each of the two services -- $50 in rows 2 and 3 -- while the remainder of the $850 investment ($750 in row 7) is regarded as unattributable common cost.

For comparison purposes it is also instructive to note that the previously used digital loop baseline is likely to exceed the cost of stand-alone telephony, because it does not take into account the existing telephone network. Upgrading the existing network to a digital loop carrier configuration would generally be less expensive than building a new network from scratch. Consequently, the modified baseline (column 4) includes a stand-alone cost estimate of $308, with a consequent video incremental cost of $542. As before, a 50 percent common cost allocation would leave a cross-subsidy burden on telephony -- here amounting to $117. To eliminate the burden on telephony would require that 66 percent of the common cost be allocated to video (row 15).

Moreover, in both Case 1 and 2, the allocation of common cost to video would have to be increased beyond the percentages shown if telephone ratepayers are to share in the benefits of the integrated network, in line with the Commission's intent. The magnitude of the overall benefits and the proportion in which they should be split between the two services raise issues going beyond the scope of my analysis.

Finally, the preceding is confined only to consideration of local loop investment. As the Commission notes, other functional categories must also be considered: investments in switching plant and interoffice transmission facilities, network-related expenses, and other expenses involving maintenance, marketing, and overheads. For each such functional category, a table conceptually like

[18]Notice, para. 29.

Table 1 could be created to show how much cost (for example annual network maintenance) would be incurred with the stand-alone telephone network, the increase in cost with the integrated network, and the difference to show the incremental cost for video. Evaluations of direct and indirect assignments would disclose the percentage of common cost that should be apportioned to the two services to prevent cross-subsidy. The telephone common cost assignments combined for all functional categories (combining investment on an annualized basis with annual expense items) would comprise the total subsidy-free common cost allocation to telephony. The extreme difficulty of obtaining such disaggregated data, going beyond local loops, as inputs into tables similar to Table 1, suggests that the Commission might do best simply to use the same fixed factor allocations as for local loop investment.

Conclusions

The limited empirical evidence suggests that the allocation of local loop common cost should generally exceed 50 percent, both to protect against the threat of cross-subsidy and to promote the sharing of benefits from scope economies. Of course, with continuing technological advances and evolution in consumer demands, the appropriate allocations may change over time. Of central importance is the need to monitor the stand-alone costs of telephone networks in relation to integrated network costs, to ensure that cost allocations to telephony fall below stand-alone costs as the way to avoid cross-subsidy and to promote the sharing of benefits from scope economies.

May 29, 1996

TABLE 1

ALLOCATION OF COMMON COST TO PREVENT CROSS-SUBSIDY
LOCAL LOOP INVESTMENT
($ per potential subscriber)

		(1) Case 1 Commission Methodology	(2) Digital Loop Carrier Baseline	(3) Case 2 Commission Methodology	(4) Telephone Upgrade Baseline
1.	Integrated Network Investment	$1785*	$1785	$850**	$850
2.	Telephony Direct Assignment	346*		50	
3.	Video Direct Assignment	260*		50	
4.	Remaining Cost (1-2-3)	1179			
5.	Telephony Indirect Assignment (2/(2+3)x50% of 4)	336			
6.	Video Indirect Assignment (3/(2+3)x50% of 4)	253			
7	Remaining Unattributable Common Cost (4-5-6)	590		750	
8.	Common Cost Allocated to Telephony (50% of 7)	295		375	
9	Common Cost Allocated to Video (50% of 7)	295		375	
10.	Total to Video (3+6+9)	808		425	
11.	Telephony Stand-Alone		700**		308**
12.	Video Incremental		1085		542
13.	Cross-Subsidy Burden on Telephony (12-10)	277		117	
14.	Common Cost Reallocated to Telephony	18 (3% of 7)		258 (34% of 7)	
15.	Common Cost Reallocated to Video	572 (97% of 7)		492 (66% of 7)	
16.	Cross-Subsidy Burden on Telephony (12-3-6-15)	0		0	

Sources: *Johnson Declaration (Bell Atlantic data), November 30, 1995, supra at 5-7, 19-20
**Johnson Reply Declaration (Pacific Bell data) March 10, 1994, supra at 12-14